The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for cutting a three-dimensional portion from a foodstuff in accordance with a predetermined shape, comprising:

scanning the foodstuff;

building a three-dimensional map of the foodstuff from the scan, the three dimensions being thickness, width and length of the foodstuff;

comparing the three-dimensional map with one or more desired predetermined shapes for one or more portions to be cut from the foodstuff;

computing one or more cutting path that would portion the foodstuff in the one or more predetermined shapes; and

cutting the foodstuff according to the computed one or more cutting paths.

- 2. A method according to Claim 1, further comprising the step rescanning the foodstuff after partially cutting the foodstuff to build a renewed multi-dimensional map of the foodstuff from the rescan to determine if the foodstuff has moved during the partial cutting.
- 3. A method according to Claim 2, further comprising the step of computing a second path of portioning along at least a second dimension to substantially conform to the predetermined shape and cutting the foodstuff according to the computed second path.
- 4. A method according to Claim 3, wherein the computed second path of portioning includes a third dimension and cutting the foodstuff according to the computed second path.
- 5. The method of Claim 4, wherein the first dimension is length, the second dimension is width, and the third dimension is length.
- 6. The method of Claim 1, wherein the scanning step utilizes a technique selected from the group consisting of optical scanning, video scanning and x-ray scanning.
- 7. The method of Claim 1, wherein the food product foodstuff moves on an endless belt conveyor.

- 8. The method of Claim 1, wherein the cutting step uses a high speed water jet.
- 9. The method of Claim 1, wherein the cutting step uses a rotating and oscillating cutting means.
- 10. The method of Claim 1, wherein a CPU is used for the computing step.
- 11. The method of Claim 10, wherein the CPU performs executable steps comprising a step of comparing at least one dimensional variable of a desired map with the generated three-dimensional map.
- 12. The method of Claim 1, wherein the one dimensional variable is thickness.
- 13. The method of Claim 11, wherein the one dimensional variable is width.
- 14. The method of Claim 11) wherein the one dimensional variable is length.